

## GENERAL SUBJECT INDEX.

OCTOBER, 1872, TO DECEMBER, 1887.

(† Indicates that the subject has been continued to date.)

## A.

- Alabama weather service, report ..... Mar. '84†  
 Anemometer observations at sea (Waldo) ..... Jan. '87, 81  
 Annual summary for 1886 ..... Jan. '87, 26-27  
 Aqueous vapor, absorption of radiant heat (Haga) ..... Apr. '77, 11  
     relation to perpetual snow (Croll) ..... Oct. '80, 16  
 Arctic meteorology, results of Sherman's observations at Annan-  
     took ..... Feb. '79, 18  
     observations of the "Vega," 1878-9 ..... Nov. '79, 15  
     (See, also, Ocean currents: Temperature.) .....  
 Arkansas weather service, report ..... Jan. '87†  
 Aurora, summary of observations ..... Nov. '73†  
     description of remarkable ..... Mar. '74, 4; May '77, 7-8; Apr. '80, 15  
     and magnetic disturbances ..... Apr. '82, 22; Nov. '82, 16-17  
     theory (Lemström) ..... Mar. '87, 91  
     coincidence with sun spots (Veeder) ..... July '87, 206
- B.
- Balloon ascensions, Nashville, Apr. 3, June 18 and 19, 1877 ..... Apr. '77, 8, ch.;  
     June, 11, ch. iv  
 Bangkok, Siam, meteorology (Campbell) ..... Sept. '79, 15  
 Barometer, Guthrie's ..... May '77, 10  
     effect of wind and exposure on readings (Abbe) ..... Nov. '86, 882-888  
     comparison of Signal Service with other standards (Waldo) ... Apr. '87,  
         119-121  
 Birds, migration ..... Feb. '74†  
 Black rain ..... Dec. '78, 8  
 Botanical phenomena, summary ..... Mar. 74†

## C.

- California, six year periods of rainfall ..... Jan. '84, 28  
 Cautionary signals, summary and verification ..... Nov. '78†  
     order instituting northwest signals ..... Feb. '81, 12-13  
     property detained in port by, during October cyclone ..... Oct. '82, 6-7  
     value, letter of Sec'y N. Y. Maritime Exchange ..... Oct. '85, 249  
 Cerro de Pasco, Peru, summary for May-Dec. '78 (Ward) ..... Mar. '79, 8  
 Charlotte, Vt., monthly rainfall 1868-'82 (Wing) ..... Mar. '88, 64  
 Charlotte, S. C., daily cloudless precipitation ..... Oct. '87, 287  
 Charts,  
     tracks of storm centres (low areas) ..... Oct. '72†  
     (fee limit and N. Atlantic storms, Jan. '84†; fog belts, July, '87.) .....  
     isobars, isotherms, and winds ..... July '78†  
     distribution of local storms ..... July '78  
     lines of equal monthly range of temperature ..... July '78  
     precipitation ..... Aug. '78†  
     tracks of areas of high barometer ..... Aug. '78  
     international meteorology, ocean storm tracks ..... Nov. '78-Mar. '81  
     international chart, mean temperature, pressure, and winds, ..... May '79-Dec. '82  
         Sept. '77-Oct. '80 ..... (Sept. '77 in Review, Apr. '80.)  
     international chart, tracks of centre of low barometer, Nov.  
         '77-Jan. '81 ..... Jan. '79-Dec. '82  
     map of cotton-belt stations ..... Apr. '82, vi  
     ice limit ..... Apr.-July '82  
         (Included in Ocean storm tracks, Feb. '83.)  
 West India hurricane tracks, 1878-'81 ..... May '82, viii  
 No. Atlantic storm charts, suppl. to ch. i ..... Oct. '82-Dec. 88;  
         (Included in ch. i, Jan. '84†)  
     frost limit ..... Sept. '83, v; Aug. '84, iv  
     departures from normal pressure and temperature ..... Aug. '84†  
     curves of meteorological elements at Pekin, Ill., Mar. '86 ..... Mar. '86  
     curves of electrometer readings ..... Apr. '86-Apr. '87  
     tornado tracks ..... July-Sept. '86  
     thunder-storm distribution ..... Aug.-Sept. '86  
 Charleston earthquake area ..... Aug. '86, vii  
 annual mean temperature, 1886, and departure from normal ..... Jan. '87, vii  
 annual precipitation, 1886 ..... Jan. '87, viii  
 average storm tracks for March, 1878-'85 ..... Mar. '87, vii  
 rain frequency and wind rose for April ..... Apr. '87, vii  
 wind rose for April ..... Apr. '87, viii  
 soil temperature and moisture, June '86, '87 ..... June '87, v  
 normal and mean temperatures for month ..... July, Nov., Dec. '87  
 meteorological and health chart of Ohio, Aug. '87 ..... Aug. '87, v

- Cincinnati, Ohio, lowest temperatures, 1856-'84 (Harper) ..... Jan. '84, 18  
 Climate of British colonies (Symons) ..... Oct. '77, 11  
     Bangkok, Siam (Campbell) ..... Sept. '79, 15  
     Europe ..... Feb. '81, 18-19  
     Palestine (Merrill) ..... Aug. '88, 198-194  
     Fiji Islands, 1875-'85 (Vaughan) ..... Oct. '87, 298  
 Cloudbursts, special notices ..... Aug. '76, 6; Feb. 78, 7; July, 8;  
     Aug. '81, 25; June '84, 150, 151; May '85, 180  
 report and remarks on (Strieby) ..... July '85, 181-182

- Cloudiness, annual mean at Lawrence, Kans., 1868-'82 (Snow) .. Dec. '82, 16  
 Clouds, peculiar arrangement ..... July '74, 5; Nov. '88, 264  
     photography (Hildebrandsson) ..... Nov. '78, 11  
     study of movements (Abbe) ..... Nov. '78, 11-12  
     as weather signs (Ley) ..... Jan. '79, 14-15  
     and cyclones (Ley) ..... Nov. '79, 16  
     luminous, description, with cut (Munson) ..... Apr. '85, 103-104  
 Cloudy days, summary ..... May '74†  
 Cold wave, remarkable ..... Jan. '86, 2-4, 8 ch.  
 Cold-wave signals, circular introducing system ..... Nov. '84, 282  
     verifications ..... Nov. '84†  
     value, extracts from reports ..... Oct. '85, 260  
 Colorado meteorological association, extract from bulletin ..... Apr. '86†  
 Colorado Springs and Denver, temperature and rainfall, July  
     1872-'86; Mar. 1872-'87 ..... July '86, 208; Mar. '87, 87  
 Comfort, Tex., monthly and annual rainfall, 1877-'88 (Pettersen) .. Dec. '88, 281  
 Cotton region, climate ..... Apr. '76, 8  
     list and map of districts and stations ..... Apr. '82, 17-18, ch. vi  
     reports ..... Apr.-Oct. '82; May-Oct. '83, '84†  
 Texas, rainfall, 1882-6 ..... Sept. '86, 260  
     rainfall and temperature for 1882-6, with average acreage  
     and yield (Dodge) ..... Oct. '86, 289  
 Cumberland, Md., temperature and precipitation for Jan. Mar.-  
     May, 1878-'87 ..... Jan. Mar.-May, '87  
 Cumberland river flood, special report ..... May '86, 146  
 Cyclones, origin (Hann) ..... Sept. '77, 12  
     characteristics of Asiatic and Indian (Wagner) ..... Nov. '78, 18  
     direction of motion (Eliot) ..... Jan. '79, 15  
     gyratory movement (Forel) ..... May '79, 15  
 Mauritius, Mar. 20, 1879 ..... June '79, 18  
     and clouds (Ley) ..... Nov. '79, 16  
     generation (Eliot) ..... Jan. '80, 15-16  
     log of U. S. S. Ranger, Nov. 28, 1879 ..... Feb. '80, 7-8  
 Manzanilla, Mex ..... Oct. '81, 8
- D.
- Dakota weather service, report ..... June '87†  
 Dale Enterprise, Va., temperature and precipitation for 1880-6.. Dec. '86,  
         344, 346
- Darkness, sudden ..... Mar. '86, 79
- Denver and Colorado Springs, temperature and rainfall, July  
     1872-'86; Mar. 1872-'87 ..... July '86, 208; Mar. '87, '87
- Dewpoint, table, with rainy and cloudy days and relative  
     humidity ..... Mar. '83-Sept. '84
- Droughts, summary ..... May '74†  
     special ..... Aug. '77, 6; Apr. '79, 9; Oct. 12; July '81, 21-22; Aug.,  
         20-28; Sept. 22-28; Nov. '87, 307-309
- Iowa, belt of continuous (Hinrichs) ..... July '86, 199  
 Dakota and Minnesota, 1886 (Brandenburg) ..... Nov. '86, 826  
 Kansas and Texas (Hazen) ..... Apr. '87, 119  
 May-Sept. 1882, with precipitation tables ..... Oct. '87, 282-288
- E.
- Earthquakes, summary ..... Feb. '74†  
     and sea wave over the Pacific Ocean, May 9 ..... May '77, 9-10  
 Sitka, Alaska, 1880 ..... Jan. '81, 17-18  
 Island of Ischia ..... July '88, 169  
 Constantinople ..... Oct. '88, 237-238  
 eastern United States, reports ..... Aug. '84, 201-204  
 Vevey, Ind., connection with meteorological phenomena  
     (Boerner) ..... Sept. '84, 286  
 Charleston, special report (Mendenhall) ..... Aug. '86, 238-235, ch. vii
- Earth temperatures, variation with coverings (Becquerel) ..... Jan. '88, 28  
     and moisture (Whitney) ..... June '87, 177-178, ch. v
- Eclipse, solar, observations of duration of totality ..... Aug. '78, 14
- Electrical observations, summary, with chart ..... Apr. '86-Apr. '87  
     simultaneous readings at Smithsonian and Signal Office.. May-June '86, ch  
     simultaneous readings at Washington Monument and Signal  
     Office ..... June '86-Apr. '87, ch  
 thunder-storm at summit of Washington Monument ..... June '86, 167
- mean values for Washington, Boston, and New Haven... Aug. '86, ch. vi
- Electrical phenomena, summary ..... Feb. Apr. '74†  
     on Pike's Peak ..... Aug. '76, 8  
     telegraphic ..... Apr. '78†  
     with sand storm ..... Mar. '80, 18
- remarkable luminous cloud, with cut (Munson) ..... Apr. '85, 103-104
- Electricity, atmospheric, origin (Edlund) ..... Nov. '78, 12-13  
     memoir on (Everett) ..... Feb. '79, 18-14
- variations in potential (Mascart) ..... Nov. '79, 15-16  
     theory and law (Exner) ..... Apr. '87, 121-122
- F.
- Fiji Islands, monthly pressure, temperature, and rainfall, 1875-'85  
     (Vaughan) ..... Oct. '87, 298
- Fires, prairie and forest ..... Dec. '78; Apr. '74†
- Fishes, appearance in rivers ..... Apr. '74†

Floods, summary of observations.....	Apr. '74†	Ice, ocean, summary of observations.....	Apr. '75†
Mississippi and Ohio valleys.....	May '74, 6; June '80, 9-10; June '81, 20-22; Oct., 18-20; Feb., 82, 18-21; Mar., 18-19; Feb., 83, 42-46; Feb., 84, 51-55; Mar., 80-81; Mar., 86, 74-75; Apr., 102-103; May, 182-184	table of icebergs for Feb.-June, '80.....	June '80, 12-13
Sacramento valley.....	Feb. '78, 6-7	chart of limit in N. Atlantic.....	Apr.-July '82
Tucson, Ariz.....	July '78, 3	(On chart, Ocean storm tracks, Feb. '83.)	
Chicago, Ill.....	July '78, 4	table of southern and eastern limit for month compared with preceding years.....	Feb. '85†
Savannah river.....	Sept. '78, 9	connection with sun-spots (Archibald).....	June '82, 8-9
Pacific coast.....	Jan. '81, 14-15	Illinois, precipitation and temperature tables, by districts.....	Apr. '83; June, 148; Apr. '84, 118; Apr. '85, 110; Jan. '86, 26; Apr. '87, 115
United States, general.....	Feb. '81, 14-16	Illinois weather service, report.....	Apr. '83†
Nashville, Tenn.....	Jan. '82, 18-20	Indiana weather service, report.....	Aug. '83†
Saint Louis, Mo.....	Apr. '82, 21	Indications, verifications.....	May '74†
Deadwood, Dak.....	May '83, 119	Insects, appearance and injury to vegetation.....	Mar. '74†
Yuma, Ariz.....	Mar. '84, 81	Intercolonial meteorological conference.....	June '80, 15
Texas.....	May '84, 131; May '85, 129-130	International charts, mean temperature, pressure and winds, Sept. '77-Oct. '80.....	May '79-Dec. '82 (Sept. '77 in Review, Apr. '80.)
Mexico.....	June '85, 157	tracks of low barometer, Nov. '77-Jan. '81.....	June '79-Dec. '82
New England.....	Feb. '86, 47-48	plan.....	July '79, 5-9
Cumberland river.....	May '86, 146	value (Nature).....	Apr. '80, 16
Fog, cause in United States.....	Dec. '78, 3	review for Aug. '78 (Nature).....	May '80, 15
annual wave at New Westminster, B. C.....	Nov. '78, 10-13; Oct. '81, 23	International meteorology, summary.....	Nov. '77†
North Atlantic.....	Oct. '86†	chart of ocean storm tracks.....	Nov. '78-Mar. '81; Oct. '82-Dec. '83
(On ch. 1, Low areas, July '87)		(Included in chart, Tracks of low areas, Jan. 84.)	
predictions for Newfoundland banks and U. S. coasts (Garrison).....	Mar. '87, 91; Apr., 122; May, 150; June, 176-177;	Iowa weather service, report.....	Apr. '83†
Dec., 336-337			K.
Fogbows.....	Jan. July '74†	Kansas droughts (Hazen).....	Apr. '87, 119
Foggy days.....	Dec. '75†	Kansas weather observer, extract.....	Mar. May July '84
Forests, influence on rainfall (Poussat).....	May '77, 11	Kansas weather service, report.....	Sept. '83†
(Fautrat).....	May '80, 15-16	Kirkwood, S. C., monthly and annual rainfall and no. of rainy days, 1866-'86 (Macrae).....	June '85, 151
temperature (Nature).....	Apr. '79, 16	Krakatoa smoke and the red skies (Kiessling).....	Sept. '86, 271-272
Fort Gibson, Ind. T., monthly and annual precipitation, 1836-'86.....	Dec. '87, 337	(Hazen).....	Feb. '87, 64
Fort McPherson, Nebr., results of observations, 1870-8.....	Feb. '87, 64	L.	
Frosts, summary of observations.....	Oct. '73†	Laconia, Ind., monthly, annual, and seasonal rainfall, 1866-'82 (Crozier).....	Dec. '82, 15-16
specially destructive.....	Apr. '75, 6, 8; May '84, 128-125	Lafayette, Ind., max., min., and mean temperatures for Jan. 1880-4.....	Jan. '84, 28
table of first, reported at 7.35 a. m. at U. S. stations.....	Sept. '78, 8	Lawrence, Kans., annual mean and extreme temperatures, 1868-'82 (Snow).....	Dec. '82, 18
chart of limits.....	Sept. '83, v; Aug. '84, iv	annual rainfall, snowfall, rainy days, humidity, and mean cloudiness, 1868-'82 (Snow).....	Dec. '82, 18
first and last, at Lawrence, Kans., Oct.-June, 1868-'84.....	Oct. '83-June '84	weather of winters 1867-'84 (Snow).....	Feb. '84, 62
Wauseon, Ohio, 1870-'88.....	Dec. '88, 277	comparative temperature of Dec. 1868-'86 (Snow).....	Dec. '86, 344
New Orleans, 1870-'84.....	Apr. '84, 118	means of observations for Oct.-June, 1868-'84 (Snow).....	Oct. '83-June '84
Signal Service stations, 1875-'84.....	Oct. '85, 254	Leavenworth, Kans., five-year means of precipitation, 1837- 1886.....	April '87, 119
remarkable phenomena.....	Mar. '87, 91; June, 177	Lightning, summary.....	May '74†
Frost warning signals in Northwest.....	Mar. '87, 91	remarkable ball.....	July '74, 7; Oct. '84, 256; Apr. '85, 86; Mar. '87, 84
G.		frequency of strokes (Hellmann).....	Dec. '86, 862
Galveston, Tex., monthly rainfall and mean max. and min. tem- perature, Apr.-Oct., 1882-6.....	Oct. '86, 289	Lightning conductors, efficiency (Holtz).....	July '80, 16
Georgia weather service, report.....	Apr. '84-Sept. '86	Lima, Ohio, monthly mean temperature, Jan. 1866-Oct. '87, and precipitation from Jan. '81 (Davis).....	Oct. '87, 293
Gravity correction.....	Feb. '85, 31	Little Rock, Ark., monthly rainfall and mean max. and min. temperatures Apr.-Oct. 1882-6.....	Oct. '86, 289
Greenwich observations for 1864-'73 (Buchan).....	Oct. '79, 16	Local weather signals, verifications.....	July '86†
Ground currents, summary of observations.....	Feb. Apr. '74†	Louisiana weather service, report.....	June '84-May '85; Nov. '87†
H.		M.	
Hail, remarkable.....	May '74, 4; Sept. '75, 6; August '76, 6; Apr. '77, 6, cut.; May, 5; July, 5; Aug., 6; Sept. '79, 16; July, 12; Apr. '80, 10; May, 8; July, 9-10; June '81, 16-17; July, 16-17; Sept., 18; May '82, 15; June, 14; May '83, 112-118; July '84, 168-169	Macon, Ga., monthly max. and min. temperatures, 1871-'82 (Boardman).....	Aug. '82, 10
from clear sky.....	July '83, 158	monthly and annual rainfall, 1871-'82 (Boardman).....	Aug. '82, 12
Hail-storms, summary.....	Apr. '74†	Magnetic declination, average diurnal range (Hinrichs).....	Jan.-June '78
origin (Viguer).....	May '77, 11	San Juan valley, Colo. (Hess).....	July '79, 15
report for the month (Finley).....	July '86, 187	and thunder-storms (Hazen).....	Sept. '84, 283, ch.
special report (Pendleton).....	June '87, 166	and sun spots (Hazen).....	Jan. '87, 29-31, ch.
Halos, summary.....	Nov. '73†	Magnetic storm at Zi-Ka-Wei (Dechevrens).....	Dec. '80, 17-19
remarkable solar.....	Dec. '76, 8, cut; July '79, 15; Nov. '80, 15	Kew Observatory (Whipple).....	Apr. '82, 22
indicating coming rain or snow (Laughlin).....	Dec. '85, 320	Greenwich (Christie).....	Nov. '82, 16-17
Hampshire natural history society, temperature observations.....	Mar. '87, 88	Marine agencies, circular relative to establishment.....	Jan. '85, 7
Health (see Medical meteorology).		Medical meteorology, temperature and mortality.....	Apr. '79, 16
Helvetia, W. Va., monthly mean temperatures, 1876-'85 (Stucky).....	Dec. '85, 301	value of study (Baker).....	Dec. '82, 25
Hoar frost, theory (Nouel).....	May '79, 15-16	causes of pneumonia (Baker).....	Nov. '86, 884
Hopkinton, Iowa, monthly and annual mean temperatures, 1852-'87 (Marks).....	Nov. '87, 315	meteorological and health chart for Ohio, Aug. '87 (Eggleston).....	Aug. '87, 234, ch. v
Hudson river, years in which closed at Albany during November, 1796-1880.....	Nov. '88, 260	Memphis, Tenn., monthly rainfall and mean max. and min. tem- perature, Apr.-Oct. 1882-6.....	Oct. '86, 289
dates of closing at Albany, 1867-'87.....	Dec. '87, 331	Mercury, observations of transit.....	May '78, 18
Humidity, summary.....	May '74†	Merritt's Island, Fla., monthly rainfall, 1878-'85 (White).....	Dec. '85, 304
table of relative, for districts.....	May '82-Sept. '84	Meteors, summary.....	Feb. Apr. '74†
annual percentage at Lawrence, Kans., 1869-'82 (Snow).....	Dec. '82, 16	special study.....	Dec. '76, 9-10
Hygrometer, Edison's tasimeter as.....	Nov. '78, 12	height (Köhl).....	Nov. '78, 11
(See, also, Psychrometer).		description of remarkable (Hagen).....	Jan. '86, 28; Mar. '86, 88
I.		Michigan weather service, report.....	July '84†
Ice, river and lake.....	Oct. '78†	Migration of birds.....	Feb. '74†
first formed.....	Oct. '74†		
(See, also, River reports.)			

Minnesota weather service, report.....	Jan. '85†	Precipitation, total for districts, Jan.-June 1887 .....	June '87, 168
Mirage, summary of observations.....	June '74†	tables showing occurrence in Oct. Nov. Dec. of 10 in. monthly,	
Mississippi river, highest stages at Saint Louis, 1872-'83.....	June '88, 142	2.50 in. daily, and 1 in. hourly, 1870-'87 .....	Oct. '87, 281-282; Nov.,
Mississippi weather service, report .....	June '84†	306-307; Dec., 329-330.	
Missouri river, change in channel at Yankton.....	Apr. '79, 12	average for Jan.-Oct. 1887, for districts, and percentage of	
Missouri weather service, report .....	Apr. '83†	normal .....	Oct. '87, 282
Moisture and temperature of soil (Whitney).....	June '87, 177-178, ch. v	table of distribution during drought of 1887 .....	Oct. '87, 283
Myer, A. J., order announcing death.....	Aug. '80, 1	Precipitation tables for long periods,	
	N.	central Pacific stations, July 1880-June '81 .....	Jan. '82, 23
Navigation, inland .....	Mar. '74†	cotton region, 1882-6, Apr.-Oct. ....	Oct. '86, 289
opening of harbors .....	May '74†	Arkansas: Little Rock, 1882-6, Apr.-Oct. ....	Oct. '86, 289
Nebraska, temperature and rainfall for Apr. July-Nov. 1878-		California: Sacramento, 1853-'82, monthly and seasonal....	Jan. '83, 14
1886.....	Apr. July-Nov. '86	San Francisco, 1849-'77, monthly .....	Sept. '82, 19
temperature for March, 1878-'87.....	Mar. '87, 89	San Luis Obispo, 1869-'82, monthly .....	May '82, 18
Nebraska weather service, report.....	Feb. '88†	Santa Barbara, 1870-'85, total winter ...	Apr. '84, 102; Dec. '85, 317
Newark, N. J., monthly and annual precipitation, 1848-'87 (Ricord).....	Nov. '87, 315	Colorado: Colorado Springs, 1872-'86, July; 1872-'87, Mar.. July '86, 208	
New Bedford, Mass., coldest winters since 1812.....	Apr. '76, 5	Mar. '87, 87	
New England meteorological society, report .....	Dec. '84†	Denver, 1872-'86, July; 1872-'87, Mar .....	July '86, 208;
New Jersey weather service, report .....	Apr. '88†	Mar. '87, 87	
New Orleans, first and last frosts and snowfalls, 1870-'84 .....	Apr. '84, 118	Connecticut: Wallingford, 1856-'87, monthly.....	Oct. '87, 292
monthly rainfall and mean max. and min. temperatures, Apr.-Oct. 1882-6 .....	Oct. '86, 289	District of Columbia, 1871-'87, heaviest.....	Nov. '87, 307
New Ulm, Tex., greatest, least, and mean precipitation, 1872-'87. June '87, 164	monthly and annual mean temperatures and precipitation,	Florida: Merritt's Island, 1878-'86, monthly .....	Dec. '86, 304
1872-'87 (Runge) .....	Dec. '87, 327	Georgia: Macon, 1871-'82, monthly .....	Aug. '82, 12
New Westminster, B. C., means of observations for 1884 .....	Jan. '85, 26	Illinois: districts, 1878-'88, Apr., June, average monthly... Apr. '88, 98;	
New York City, total and annual average precipitation for each five years, 1887-'81.....	Sept. '82, 19	June, 148	
heavy rainfalls, 1869-'87, with discussion of rate (Draper). Dec. '87, 328-329		1878-'84, Apr .....	Apr. '84, 118
North Atlantic (see Charts: Fog; Ice; International meteorology: Storms: Weather charts).		1878-'85, Jan.-Apr. ....	Apr. '86, 110
North Carolina weather service, report .....	Jan. '87†	1875-'86, Jan .....	Jan. '86, 26
North Lewisburg, Ohio, temperature for 58 years (Gowey).....	Sept. '85, 226	1878-'87, Apr. ....	Apr. '87, 115
Notes and extracts .....	Apr. '77†	Oswego, 1880-7, monthly.....	Nov. '87, 315
	O.	Sandwich, 1852-'84, annual.....	Apr. '88, 109
Observations, summary for stations of Signal Service .....	Aug. '84†	Indiana: Laconia, 1866-'82, monthly .....	Dec. '82, 15-16
record of voluntary observers and army surgeons.....	Aug. '84†	Wabash, 1877-'82, monthly .....	Dec. '82, 16
Ocean currents, caused by wind, on coast of Chili .....	Aug. '78, 8	Indian Ty.: 1886-'86, monthly .....	Dec. '87, 387
Greenland and Iceland (Hoffmeyer) .....	Feb. '81, 19-20	Kansas: Lawrence, 1868-'82, annual.....	Dec. '82, 16
Ocean fluctuations at Nagasaki (Coffin) .....	Oct. '77, 11	1868-'84, Oct.-June, mean monthly ...	Oct. '88, June '84
Ocean temperature (see Temperature of water).		Leavenworth, 1887-'86, five-year means.....	Apr. '87, 119
Ohio, comparative summary of observations, 1888-6.....	Jan. '86, 29	Louisiana: New Orleans, 1882-6, Apr.-Oct .....	Oct. '86, 289
Ohio meteorological bureau, report.....	Apr. '88†	Maryland: Cumberland, 1878-'87, Jan. Mar.-May ...	Jan. Mar.-May '87
Ohio river, highest stages at Pittsburgh, 1810-'81 .....	June '81, 21	Nebraska: southeastern district, 1878-'86, Apr. July-Nov... Apr. July-Nov. '86	
Cincinnati, 1832-'82.....	Apr. '82, 21-22	Fort McPherson, 1870-8, mean monthly, &c .....	Feb. '87, 64
Optical phenomena, summary .....	Nov. '73†	New Jersey: Newark, 1843-'87, monthly .....	Nov. '87, 315
Oregon weather service, report .....	Mar. '87†	New York: New York City, 1887-'81, five year total and average .....	Sept. '82, 19
Oswego, Ill., monthly and annual precipitation, 1880-7 (Seely). Nov. '87, 315		1869-'87, heavy rainfalls..Dec. '87, 328-329	
Ozone, average from 18 stations in Tennessee, Oct. '85.....	Oct. '85, 270	North Carolina: Wilmington, 1882-'86, Apr.-Oct .....	Oct. '86, 289
	P.	Ohio: Lima, 1881-7, monthly .....	Oct. '87, 293
Palestine, climate, (Merrill) .....	Aug. '88, 198-194	Portsmouth, 1859-'84, monthly .....	Dec. '84, 308
Paramaribo, summary of observations, July 1878-Feb. '79 .....	May '79, 7	Wauseon, 1871-'88, monthly and total snowfall, Oct.-May .....	Dec. '88, 281
Parkersburg, W. Va., annual mean and max. temperatures, 1880-5 (Farrow) .....	Dec. '85, 301	Pennsylvania: Philadelphia, 1851-'81, mean monthly.....	Jan. '82, sh.
Pekin, Ill., curves of meteorological elements for March, 1886... Mar. '86, ch.		South Carolina: Kirkwood, 1866-'86, monthly .....	June '85, 151
Pennsylvania weather service, report .....	Sept. '87†	Tennessee: Memphis, 1882-6, Apr.-Oct. ....	Oct. '86, 289
Phenological phenomena, summary.....	Feb. '74†	Texas: cotton region, 1882-6, annual .....	Sept. '86, 260
Philadelphia, Pa., abstract of observations, 1851-'81 (Kirkpatrick) .....	Jan. '82, sh.	Comfort, 1877-'88, monthly .....	Dec. '88, 281
Pike's Peak, summary of observations, Jan. '74 .....	Jan. '74, 4	Galveston, 1882-6, Apr.-Oct .....	Oct. '86, 289
Polar bands, summary of observations .....	Nov. '78†	New Ulm, 1872-'87, greatest, least, mean monthly.. June '87, 164	
Pollen-showers.....	May '77, 11; Mar. '79, 16; July, 16	1872-'87, monthly .....	Dec. '87, 337
Portsmouth, Ohio, monthly precipitation, 1869-'84 (Cotton).....	Dec. '84, 303	Vermont: Charlotte, 1868-'82, monthly.....	Mar. '88, 64
Pottstown, Pa., max. temperature for July Aug. and Sept. 1850-'81 (Moore) .....	Aug. '82, 10	Virginia: Dale Enterprise, 1880-6, total for Dec.....	Dec. '86, 346
Precipitation, summary .....	Oct. '72†	Snowville, 1869-'82, monthly.....	Dec. '82, 18
chart .....	Aug. '73†	Wytheville, 1860-'82, monthly.....	June '82, 18
average for districts and departures from normal.....	Aug. '78†	Wytheville, mean, greatest, and least monthly for 21 years.....	Dec. '85, 304
(On ch. iii, Aug. '73-Dec. '82.)		Washington: Walla Walla, 1878-'82 .....	Apr. '88, 82
special heavy .....	Nov. '78†	Precipitation, notes and extracts,	
cloudless, summary.....	Jan. '74†	connection with sun spots (Hunter) .....	July '77, 11
cloudless, remarkable.... June '77, 5; Jan. '79, 8; Mar., 10; Jan. '82, 16;		periodicity (Whipple).....	Feb. '80, 16-17
lists of special heavy, largest, and smallest monthly .....	Sept. '76†	long period inequality (Stewart) .....	May '80, 14-15
cotton districts .....	Apr.-Oct. '82; May-Oct. '83, '84†	six year periods in California .....	Jan. '84, 28
table of rainy and cloudy days, relative humidity, and (from Mar. '88) dew-point for districts .....	May '82-Sept. '84	heavy rains before, followed by light after, Jan. 1 (Cooper). Apr. '84, 102	Dec. '85, 317
districts of maximum departures for Mar.-Feb. 1878-'84... Mar. '88-Feb. 84		rainfall and its sources in southern slope (Cline) .....	Nov. '86, 383-384
departures from normal, Aug.-Nov. '84.....	Nov. '84, 228	secular variation (Hazen) .....	Apr. '87, 119
table of average for voluntary stations, with departures .....	July '85†	rain frequency and wind rose for April (Dunwoody)... Apr. '87, 118-119	ch. vii-viii
mean for '85, with normals for Signal Service stations... Dec. '85, 315-316		effect of rainfall upon air temperature (Mayer).....	July '87, 206
total for '86 compared with normals .....	Jan. '87, 26, ch. viii	heavy rainfalls at Washington City, 1871-'87, and discussion of rate .....	Nov. '87, 807
	4	rain and snow from cloudless sky (Russell).....	Nov. '87, 814-816
Predictions, verifications .....		Predictions, verifications .....	May 74†
sunset.....		sunset.....	Mar. '77-Nov. '86
Deutsche Seewarte .....		Deutsche Seewarte .....	Apr. '77, 12

Pressure, summary .....	Oct. '72†	Snow, aqueous vapor in relation to perpetual (Croll) .....	Oct. '80, 16
low areas.....	Oct. '72†	on June 12 at Lynchburg, Va.....	June '87, 164
chart of isobars, isotherms, and winds .....	July '73†	(See also Precipitation).	
movement of high areas.....	Aug. '73, 1, ch.	Snow balls, natural (Hart) .....	Feb. '88, 89-40
high areas, summary .....	Nov. '73†	Snowfalls, first and last at New Orleans, 1870-'84.....	Apr. '84, 118
comparision with movements of water in Lake Superior.....	Mar. '74, 4;	in May 1866-'84, Dannemora, N. Y.....	May '84, 127
Aug., 6; Oct., 8; Jan. '75, 8; Mar., 8; Apr., 8; July, 8; Aug., 8		at stations east of the Rocky Mountains, tables of first,	
ranges .....	Oct. '76†	1878-'85; last, 1873-'86.....	Sept. '86, 254-255; Apr. '87, 122-128
departures from normal values.....	Nov. '79†	Snow slides.....	Mar. '84, 87; Jan. '86, 18
means and departures at foreign isolated stations, May '79-		Snowville, Va., monthly and annual temperature and precipita-	
Oct. '80 .....	July '81-Dec. '82	tion, 1869-'82 (Moore).....	Dec. '82, 18, 16
means and departures for European countries, Mar.-Oct. '80	May-Dec. '82	Solar heat, variations at earth's surface (Crova).....	Apr. '77, 10
Pressure, notes and extracts,		law of intensity (Crova) .....	May '77, 12
mean in interior of Asia (Köppen) .....	Feb. '79, 12	importance of observations (Jevons).....	Nov. '78, 12
third daily maximum (Capello) .....	Apr. '79, 16; May, 15	and temperature curves, Pekin, Ill., Mar. '86 .....	Mar. '86, ch.
(Buchan) .....	Oct. '79, 16	Solar phenomena, summary .....	June '77†
remarkable fluctuations during storm .....	Aug. '79, 7	South Carolina weather service, report .....	Jan. '87†
types of low areas, and movement across United States .....	Aug. '82, 3	State weather services, extracts from reports .....	Feb. '88†
reduction of barometer readings to lat. 45° .....	Feb. '85, 31	Alabama .....	Mar. '84†
effect of wind and exposure on barometer (Abbe) .....	Nov. '86, 332-333	Arkansas .....	Jan. '87†
during high winds on Mount Washington (Carr) .....	Feb. '87, 63-65	Colorado .....	Apr. '86†
movements of high areas over the North Atlantic (Gar-		Dakota .....	June '87†
riott) .....	Oct. '87, 278-274	Georgia .....	Apr. '84-Sept. '86
direction of movement of low areas (Beall) .....	Oct. '87, 291-292	Illinois .....	Apr. '88†
mean hourly variation, Washington, May-Dec. '87 .....	Dec. '87, 337	Indiana .....	Aug. '83†
Psychrometers, accuracy (Marriott and Ward) .....	May '77, 11	Iowa .....	Apr. '88†
differences of still and whirled (Russell) .....	Oct. '86, 299-300	Kansas .....	Sept. '83†
R.		Louisiana .....	June '84-May '85; Nov. '87†
Railway weather signals, verification .....	Jan. '84†	Michigan .....	July '84†
Rain (see Precipitation).		Minnesota .....	Jan. '85†
Rainbows, observations of lunar, summary .....	June '75†	Mississippi .....	June '84†
observation of four .....	July '77, 9	Missouri .....	Apr. '88†
double, in a cloudless sky .....	July '78, 10	Nebraska .....	Feb. '88†
mid-winter; with sun in centre .....	Dec. '85, 812	New Jersey .....	Apr. '88†
Rainy days, summary .....	May '74†	North Carolina .....	Jan. '87†
Lawrence, Kans., 1868-'82 .....	Dec. '82, 16	Ohio .....	Apr. '88†
Sacramento, Cal., 1853-'82 .....	Jan. '83, 14	Oregon .....	Mar. '87†
Rain gauge, marine (Horkens) .....	May '77, 11	Pennsylvania .....	Sept. '87†
River reports, summary .....	May '73†	South Carolina .....	Jan. '87†
table of heights above low water .....	July '73†	Tennessee .....	Feb. '88†
(On ch. II to Dec. '82.)		Stateburg, S. C., extract from record for winter months 1885,	
table of average depth of water .....	Apr. '74†	1851-7, and comparative temperatures of Jan. '57 and '86	
(On ch. II to Dec. '82.)		(Anderson) .....	Jan. '86, 29-30
highest stages, Pittsburgh, 1810-'81 .....	June '81, 21	Storms, summary, with chart of tracks .....	Oct. '72†
Cincinnati, 1832-'82 .....	Apr. '82, 21-22	local, distribution .....	July '78, 1, ch.
Saint Louis, 1872-'83 .....	June '83, 142	local, summary .....	Apr. '74†
years in which Hudson closed at Albany during Nov. 1796-		North Atlantic .....	Oct. '76†
1880 .....	Nov. '88, 260	chart of ocean tracks .....	Nov. '78-Mar. '81; Oct. '82-Dec. '88
dates of closing at Albany, 1867-'87 .....	Dec. '87, 331	(On ch. I, Jan. '84-†)	
Rome, mean daily wind-velocity, 1862-'76 .....	Apr. '77, 11	international chart, tracks of low centres Nov. '77-Jan. '81..	June '79-
S.		June '79-	Dec. '82
Sacramento, Cal., mean monthly temperatures, 1853-'82 (Bar-		chart of West India hurricane tracks, 1878-'81.....	May '82, 4, ch. viii
wick) .....	Jan. '88, 8	Storms, special,	
monthly, annual, and seasonal rainfall, with number of rainy		West Indies and Atlantic coast .....	Nov. '78, 2; Sept. '79, 3-4; Sept. '78, 3-4; Oct. '78,
days, 1853-'82 (Barwick) .....	Jan. '83, 14	3-4; Oct. '79, 3-4; Sept. '79, 3-4; Oct. '79, 5-6; Aug. '79, 4-7; Aug. '80, 4-6, 7;	
Saint Johns, New Brunswick, summary for Aug. 1885 .....	Aug. '86, 217	Nov. '78, 7-8; Aug. '81, 8-9; July '82, 6;	
Saint Louis, Mo., monthly mean temperatures, 1837-'80 .....	Jan.-Dec. '81	Sept. '79, 8-10; Oct. '79, 8-7; Aug. '80, 178-180; Sept. '80, 199-202; Aug. '81, 195-196; Oct. '81, 247-248; June '82, 150-151	
diagram of mean winter temperatures, 1837-'85 .....	Feb. '85, 38	Gulf states and eastern United States .....	Sept. '74, 4; Dec. '74, 4; Sept. '77,
Saint Michael's, Alaska, summary for July 1877-June '78 .....	Dec. '78, 5	2-4; Jan. '78, 5-6; Aug. '79, 7-8; Sept. '79, 3-4; Feb. '80, 8-9; Jan. '80, 4-5; Aug. '81, 210-211; Sept. '81, 242-244; Oct. '81, 270-271	
Sand storms, notes of occurrence .....	June '79†	Lake region .....	Oct. '74, 3-4; Oct. '79, 6-7; Oct. '80, 4; Nov. '74, 3-4; Oct. '81, 268-269, 274-278
electrical phenomena accompanying .....	Mar. '80, 13	trans-continental .....	Nov. '74, 3-5; Dec. '85, 295-296; Feb. '86, 34
Sandwich, Ill., summary of observations, 1852-'84 (Ballou) .....	Apr. '85, 109	Pacific coast .....	Jan. '80, 4-5; Dec. '87, 380
San Francisco, Cal., monthly and annual rainfall, 1849-'77 .....	Sept. '82, 19	Sitka, Alaska .....	Feb. '82, 16
San Luis Obispo, Cal., monthly and annual precipitation, 1869-'82		North Atlantic .....	Nov. '88, 248-251; Feb. '84, 35-37; Apr. '89, 94-96; Aug. '87, 214-215
(Hays) .....	May '82, 18	Storms, notes and extracts,	
Santa Barbara, Cal., total winter precipitation, 1870-'85		West Indies hurricane (de Tejada) .....	Apr. '77, 11
(Cooper) .....	Apr. '84, 102; Dec. '85, 317	theory (Loomis) .....	June '77, 12; July, 11-12
Scintillation of stars (Montigny) .....	May '77, 10; Jan. '79, 15	Atlantic (Loomis) .....	Dec. '78, 11-12
Sea breezes, height, compared with land breezes (Sherman) .....	July '80, 15-16	course of Californian (Cooper) .....	Dec. '85, 317
on New England coast .....	Apr. '87, 117	North Atlantic during 1885 (Garriott) .....	July '87, 207
Shelbyville, Ind., lowest temperatures, 1851-'77 (Robins) .....	Jan. '84, 11	movement of American (Loomis) .....	Feb. '80, 17-18; Jan. '81, 19-20
Showers of dust .....	Dec. '78, 8; Jan. '86, 24	diagram of observations on s. s. "Assyria," New York to	
pollen .....	May '77, 11; Mar. '79, 16; July, 16	Bristol, May '88 .....	June '88, 180
sand .....	Oct. '83, 238	tracks of s. s. "Polynesian" during cyclone, Nov. 28, '81..	Nov. '81, 5;
stones .....	Feb. '77, 9	Jan. '82, 22	
Siberia, low temperatures in (Woelkof) .....	May '81, 20	West India hurricane tracks, 1878-'81.....	May '82, ch. viii
Signal Service, remarks of Hon. A. H. Stephens on .....	May '78, 18-14	tracks for March, 1878-'85 (Greene) .....	Mar. '87, 90-91, ch. vii
Sitka, Alaska, description of storm at .....	Feb. '82, 16	(see, also, Cyclones: Pressure: Thunder-storms.)	
Sleet, summary of observations .....	Jan. '78†		
remarkable storm .....	Jan. '86, 14, 28-29		
Smoke, revolving column .....	July '88, 201		
Smoky atmosphere .....	Nov. '78, 4; Sept. '81, 27-29		
Snow, early .....	Oct. '78†		
depth on ground at end of month .....	Mar. '77†		
colored .....	May '77, 11; Mar. '79, 16		

Storm signals (see Cautionary signals).	
Sunset predictions .....	Mar. '77-Nov. '86
Sunsets, red, observations .....	Nov. '83-Mar. '84; Aug.-Dec. '84
connection with Krakatoa smoke (Kiessling) .....	Sept. '86, 271-272
(Hazen).....	Feb. '87, 64
Sunshine record at Raleigh, N. C .....	Feb. '87, 63; Apr., 117
Sun spots, record of Prof. D. P. Todd.....	June '77-Nov. '86
records of various observers .....	Oct. '77†
numbers (Wolf) .....	June '77, 12
connection with rain (Hunter) .....	July '77, 11
temperature (Lancaster) .....	July '77, 11
meteorology (Brown) .....	Nov. '78, 12
ocean ice (Archibald) .....	June '82, 8-9
atmospheric disturbances (Veeder) .....	Oct. '86, 296-297
meteorological phenomena (Hazen), Jan. '87, 29-31, diag.	
thunder-storms and auroras (Veeder) .....	July '87, 208
T.	
Temperature, summary .....	Oct. '72†
mean for six stations, Apr.-June, 1871-'73.....	June '73, 2
chart of isobars, isotherms, and wind .....	July '73†
chart of equal monthly range .....	July '73
average for districts compared with normal .....	Aug. '73†
(On ch. ii to Dec. '82)	
remarkably low.....	Apr. '74, 3; Jan. '75, 4-5; Dec. '79, 10; Nov. '87, 304
ranges .....	Oct. '74†
maximum and minimum .....	Aug. '75†
(Tabulated Mar. '81)	
remarkably high .....	July '81, 12-15
mean, with normals and departures .....	July '85†
table of mean and max. for Oct. '79 at 40 stations, compared	
with normal monthly and highest max .....	Oct. '79, 9
deviations from normal .....	Jan. '81†
table of comparative maximum.....	July-Oct. '81, Apr.-Oct. '82, '83†
table of comparative minimum.....	Nov. '81-Mar. '82, '83†
table of comparative maximum and minimum.....	July '85†
comparative means and departures at foreign stations, May	
'79-Oct. '80.....	July '81-Dec. '82
data for the cotton districts .....	Apr.-Oct. '82; May-Oct. '83, '84†
mean monthly for European countries, Mar.-Oct. '80, and	
comparison with mean for 1877-9 .....	May-Dec. '82
extreme monthly means for foreign isolated stations Jan.-	
Oct. '80 .....	Feb.-Dec. '82
table of extreme monthly means .....	Jan. '83-Sept. '84
districts of maximum for Apr.-Feb. 1878-'83.....	Apr. '83-Feb. '84
greatest daily ranges.....	Aug. '83†
daily extremes and mean at coldest stations in NW., Dec. '84..	Dec. '84, 801
annual mean for 1885, with normals, for S. S. stations. Dec. '85, 815-816	
extreme, and comparison of mean with normal, for 1886....	Jan. '87, 26,
ch. vii	
chart of normal and mean for month, at special stations.....	July Nov.
Dec. '87	
mean autumnal .....	Nov. '87, 204
Temperature tables for long periods at special stations,	
cotton-belt, 1882-6, Apr.-Oct. mean max. and min .....	Oct. '86, 289
Arkansas: Little Rock, 1882-6, Apr.-Oct. mean max. and	
min.....	Oct. '86, 289
California: Sacramento, 1858-'82, monthly, annual, and	
seasonal means.....	Jan. '83, 8
Colorado: Colorado Springs, 1872-'86, July; 1872-'87,	
Mar .....	July '86, 208; Mar. '87, 87
Denver, 1872-'86, July; 1872-'87, Mar... July '86, 208; Mar.	
'87, 87	
Connecticut: Wallingford, 1858-'78, monthly means.....	Oct. '87, 292
1864-'78, monthly max. and min..	Oct. '87, 292
Georgia: Macon, 1871-'82, monthly max. and min .....	Aug. '82, 10
Illinois: districts, 1878-'88, Apr. June, mean..	Apr. '83, 98; June, 147-148
1878-'84, Apr .....	Apr. '84, 118
1875-'86, Jan.....	Jan. '86, 26
Indiana: Lafayette, 1880-'84, Jan. max., min. and mean..	Jan. '84, 28
Shelbyville, 1842-'88, lowest recorded .....	Jan. '84, 11
Vevay, 1865-'84, lowest for each year.....	Dec. '88, 279
Wabash, 1877-'82, monthly means .....	Dec. '82, 18
Iowa: Hopkinton, 1852-'87, monthly means.....	Nov. '87, 815
Kansas: Lawrence, 1868-'82, annual means and extremes..	Dec. '82, 18
1867-'84, monthly means and extremes	
for winters.....	Feb. '84, 62
1868-'84, monthly means, max. and	
min. Oct.-June .....	Oct. '88-June '84
1868-'86, Dec .....	Dec. '88, 844
Louisiana: New Orleans, 1882-6, Apr.-Oct. mean max.	
and min .....	Oct. '86, 289
Maryland: Cumberland, 1878-'87, monthly means	
Jan. Mar.-May '87	
Massachusetts: New Bedford, 1812-'75, coldest winters.....	Apr. '75, 5
Worcester, 1839-'83, means for winter	
months .....	Mar. '83, 59
Temperature tables for long periods at special stations,	
Missouri: Saint Louis, 1887-'80, monthly means .....	Jan.-Dec. '81
1887-'85, diagram of mean winter...	Jan. '85, 38
Nebraska: Fort McPherson, 1870-8, mean monthly, max.,	
min., &c.....	Feb. '87, 64
southeastern, 1878-'86, mean, noon, highest, low-	
est, &c., for Apr. July-Nov.....	Apr. July-Nov. '86
North Carolina: Wilmington, 1882-'86, Apr. Oct., mean,	
max., and min.....	Oct. '86, 289
Ohio: Cincinnati, 1856-'84, lowest recorded .....	Jan. '84, 18
Lima, 1865-'87, monthly mean .....	Oct. '87, 298
North Lewisburg, 53 years' monthly normal, highest	
and lowest mean, max., min., &c.....	Sept. '85, 226
Wauseon, 1870-'83, monthly means .....	Dec. '88, 277
Pennsylvania: Philadelphia, 1851-'81, mean monthly max.	
min., &c .....	Jan. '82, sh
Pottstown, 1850-'81, max. for July Aug. Sept.	
of each year .....	Aug. '82, 10
South Carolina: Stateburg, 1885, 1851-7, cold days.....	Jan. '86, 29-30
Tennessee: Memphis, 1882-6, Apr.-Oct., mean max. and	
min .....	Oct. '86, 289
Texas: Galveston, 1882-6, Apr.-Oct. mean max. and min...	Oct. '86, 289
New Ulm, 1872-'87, monthly mean.....	Dec. '87, 387
Virginia: Dale Enterprise, 1880-6, annual max., min., and	
mean .....	Dec. '86, 344
Wytheville, 1861-'82, monthly means, max., and	
min .....	June '82, 10
21 years, monthly normals, highest	
and lowest means, max., and min..	Dec. '85, 301
Washington: Walla Walla, 1872-'82, monthly means and	
extremes .....	Apr. '88, 82
West Virginia: Helvetia, 1876-'85, monthly means.....	Dec. '85, 301
Parkersburg, 1880-5, annual means and	
max .....	Dec. '85, 301
Temperature, notes and extracts,	
belt of thermal contrasts on side of high area .....	Feb. '74, 5-6
connection with sun spots (Lancaster) .....	July '77, 11
increase with altitude (Allard) .....	Nov. '78, 12
methods of observing at distant places.....	Feb. '79, 12-18
observations of the "Vega," 1878-9 .....	Nov. '79, 15
inversion at Puy de Dome (Allard) .....	May '80, 16; Dec. '82, 25-26
cold winter of 1880 at Saint Michael's.....	Sept. '80, 14-15
low Siberian (Woeikof).....	May '81, 20
cold of October, 1880, at Saint Petersburg (Wild).....	Dec. '82, 25
thermal belts of North Carolina (Chickering).....	Feb. '83, 52
(Blake) .....	July '87, 234
dipping of freezing point plane before thunder storms (Pro-	
haska and Hazen) .....	Dec. '86, 360-361
Hampshire natural history society, observations .....	Mar. '87, 88
inversion in White Mountains.....	Mar. '87, 88
effect of rainfall on (Mayer) .....	July '87, 206
daily mean from max. and min. thermometers .....	July '87, 207
Temperature of water, summary.....	July-Aug '78; Feb. '74†
table.....	July '78†
(On ch. ii to Dec. '82)	
observations from San Francisco to Yokohama by s. s.	
"Alaska" .....	Apr. '77, 8
deep sea, and oceanic circulation (Carpenter).....	Dec. '78, 12
observations on the "Gulnare" (Sherman).....	Feb. '81, 19
(See, also, Earth temperature.)	
Tennessee, comparative table of observations, 1883-5.....	Dec. '85, 820
Tennessee meteorological department, report .....	Feb. '88†
Texas, rainfall in cotton region, 1882-6 .....	Sept. '86, 260
droughts (Hazen).....	Apr. '87, 119
Thermal belts of North Carolina (Chickering) .....	Feb. '83, 52
(Blake) .....	July '87, 234
Thermometers, Moritz's .....	May '77, 11
quartz (Joubert) .....	Nov. '78, 12
direction for setting up minimum, and uniting column of	
mercury.....	Mar. '86, 86
Thunderstorms, summary.....	July '78; Feb. Apr. '74†
distribution in United States.....	July '78, 1, ch.; June '76, 6
Haute Savoie, France.....	Apr. '77, 12
New England, Aug. '78.....	Aug. '78, 4-5
notes on storm in western Ontario .....	July '88, 172-173
notes (Hazen) .....	Aug. '84†
mean number per station in all districts for Sept. and Oct.	
1851-'78, with table of magnetic declination (Hazen)....	Sept. Oct. '84
comparison of mean number in Sept. and Oct. '84, by dis-	
tricts, with mean for 1854-'78 (Hazen) .....	Sept. Oct. '84
connection with tides (Hazen) .....	Oct. '86, 264
report (Hazen).....	Apr. '86†
origin and distribution (Davis).....	July '88, 195-198
frequency at Roseburg, Oregon .....	July '88, 196-197
charts showing number in each state, Aug. 16, Sept. 19,	
(Hazen) .....	Aug. Sept. '86, ch. viii

Thunder-storms, dipping of the freezing-point plane before (Pro-haska and Hazen).....	Dec. '86, 380-381	Volcanoes, description of eruption at Java.....	Dec. '88, 293-294
coincidence with sun spots (Veeder).....	July '87, 206	W.	
Tidal wave, Lake Erie.....	July '74, 7	Wabash, Ind., monthly and annual temperature and rainfall 1877-'82 (Hunter) .....	Dec. '82, 18, 16
Callao, Peru.....	Feb. '78, 12	Walla Walla, Wash., monthly and annual temperature and rainfall, 1872-'82 (Straight) .....	Apr. '88, 82, 86
Sonoma Co., Cal.....	Aug. '79, 14	Wallingford, Conn., monthly mean temperature, 1858-'78, and total precipitation, 1866-'87 .....	Oct. '87, 292
Lake Michigan.....	June '79, 10; July '88, 165	monthly max. and min. temperatures.....	Oct. '87, 292
Lakes Erie and Superior.....	June '82, 19-20	Washington City, heavy rainfalls, 1871-'87 .....	Nov. '87, 307
Lake Ontario.....	May '84, 135	Water discharge of Clear Creek, Colo., 1880-'81 (Berthoud) .....	May '81, 19
Tides, high and low .....	Apr. '78, 18	Water-spouts, summary of observations .....	Oct. '74†
connection with thunder-storms (Hazen) .....	Oct. '85, 264	description of remarkable.....	Sept. '75, 6; Sept. '76, 8; June '77, 7; July '78, 9; Mar. '79, 11; May '80, 11; June, 11;
Tornadoes, summary .....	June '75†	July, 12; June '81, 22; July, 22; Sept. 24; Nov., 28; June '83, 145; May '84, 135; June, 156; July, 177; Sept., 238; Nov. 271; May '85, 187; Oct., '86, 297; Oct. '87, 284-285	
map of pressure, temperature, and wind-direction for tornado region of June 12.....	June '81, 18	Wauseon, Ohio, monthly and annual mean temperature, and first and last frosts, 1870-'88 (Mikesell) .....	Dec. '88, 277
frequency in Minnesota .....	Apr. '86, 118	monthly and annual precipitation and total snowfalls, 1871-88 (Mikesell) .....	Dec. '88, 281
report (Finley).....	May '86†	Weather charts of the North Atlantic, Meteorological council....	Oct. '87, 298
chart showing track (Finley) .....	July-Sept. '86	Weather lights .....	Mar. '84, '85
studies (Finley) .....	Aug. '86, 224-225; Sept., 257-259, ch.	West India hurricane, chart of tracks, 1873-'81 .....	May '82, viii
relation to areas of low barometer (Finley).....	Jan. '87, 16	West India storm warnings, establishment.....	May '82, 4
Tornadoes, special, .....	-	Wilmington, N. C., monthly rainfall and mean max. and min. temperature, Apr.-Oct. 1882-6 .....	Oct. '86, 289
Canton, China .....	June '78, 6	Wind, verification of Dove's law .....	July '74, 7
Alabama: southern counties.....	Mar. '82, 16-17	roses at Zi-Ka-Wei, 1875-6 .....	Apr. '77, 12
Leeds .....	Feb. '84, 48	mean daily velocity at Rome, 1862-'76 .....	Apr. '77, 11
Arkansas: Ozark .....	Apr. '83, 89	charts for South Atlantic (Brault) .....	Aug. '77, 12
Silver City.....	May '82, 16	on Mount Washington (Loomis) .....	June '79, 18-14
Connecticut: Suffield .....	May '80, 11	height of land and sea breezes (Sherman) .....	July '80, 15-16
Wallingford .....	Aug. '78, 5	observations at different heights (Stevenson) .....	Sept. '80, 15
Georgia: Smithville .....	Mar. '82, 16-17	anemometer observations at sea (Waldo) .....	Jan. '87, 81
Illinois: Cairo.....	Feb. '84, 49	relation to pressure on Mount Washington (Carr) .....	Feb. '87, 63-65
Chicago .....	May '76, 4	rain frequency and wind rose for April (Dunwoody) .....	Apr. '87, 118-119, ch. vii-viii
Hillsborough.....	May '88, 115	Winds, summary .....	Aug. '78, Jan. '74†
Mount Carmel.....	June '77, 7	high .....	May. '74†
Indiana: Elkhart.....	July '77, 6	total movement of the air .....	June '74†
Indianapolis .....	Mar. '80, 12	table of largest and smallest total movements .....	Feb. '88†
Iowa: Grinnell .....	June '82, 16	Worcester, Mass., mean temperature of winter months, 1889-88 (Hall) .....	Mar. '88, 59
Maryland: Sandy Spring .....	Sept. '79, 12	Wrecks, special aid rendered by Signal Service,	
Michigan: Detroit .....	July '75, 4	Mary Rice .....	Dec. '78, 8
Minnesota: Rochester .....	Aug. '83, 187	Huron .....	Nov. '77, 4-5
Sauk Rapids .....	Apr. '86, 100-101	Metropolis .....	Jan. '78, 6
Mississippi: Starkville .....	Apr. '88, 90	Giuseppe Massano .....	Feb. '78, 4
Missouri: Brownsville .....	Apr. '82, 19-20	Nipoli .....	Mar. '78, 12
Marshfield.....	Apr. '80, 12-13	Dos Cunados .....	July '78, 14
Richmond .....	June '78, 6	James M. Vance .....	Apr. '79, 15
Missouri valley, with map .....	June '81, 17-20	Wytheville, Va., monthly max., min., and mean temperatures, 1860-'82 (Shriver) .....	June '82, 10
New York: Albany .....	July '78, 4	monthly and annual precipitation, 1860-'82 (Shriver) .....	June '82, 18
Ohio: Glendale.....	June '80, 11	temperature and rainfall tables for 21 years (Shriver)....	Dec. '86, 801, 804
Toledo .....	Mar. '80, 12		
Washington Court House .....	Sept. '85, 231	Y.	
Pennsylvania: Philadelphia .....	Aug. '85, 205	York Factory, summary of observations, June '78-Feb. '79 .....	May '79, 7
Tennessee: Nashville .....	Feb. '80, 13	Z.	
Texas: Dallas .....	Apr. '79, 10, 14	Zi-Ka-Wei, meteorological summary, 1873-6, and wind roses, 1875-6 .....	Apr. '77, 11-12
New Ulm .....	July '81, 18	Zodiacal light, summary of observations .....	Feb. '75†
Wisconsin: Mineral Point .....	May '78, 8-9	deductions from observations (Hasselbrink) .....	Apr. '80, 15
Typhoon, observations of a. s. "Coptic" and "Palos" .....	Aug. '82, 3-4	memoir on (Dechevrens) .....	Aug. '80, 15-16
China Sea, July Aug. Nov. '80 (Dechevrens) .....	June '82, 7; July, 8, Oct., 11	Zoological phenomena, summary .....	Apr. '74†
Japan.....	Sept. '82, 14-15		
U.			
Unalaska Island, summary of observations, Nov. 1878-Feb. '79..	May '79, 6		
V.			
Verifications, cautionary signals .....	Nov. '78†		
predictions .....	May '74†		
method .....	July '86, 201		
change in method, rules, and percentages July-Oct. '87..	Oct. '87, 287-288		
rules for cautionary signals .....	Oct. '87, 289,		
Vevay, Ind., low temperatures 1866-'84 (Boerner) .....	Dec. '88, 279		
Volcanoes, eruptions .....	July '77†		
during 1878 (Fuchs) .....	Aug. '79, 16		
Krakatoa .....	Aug. '88, 191-192		